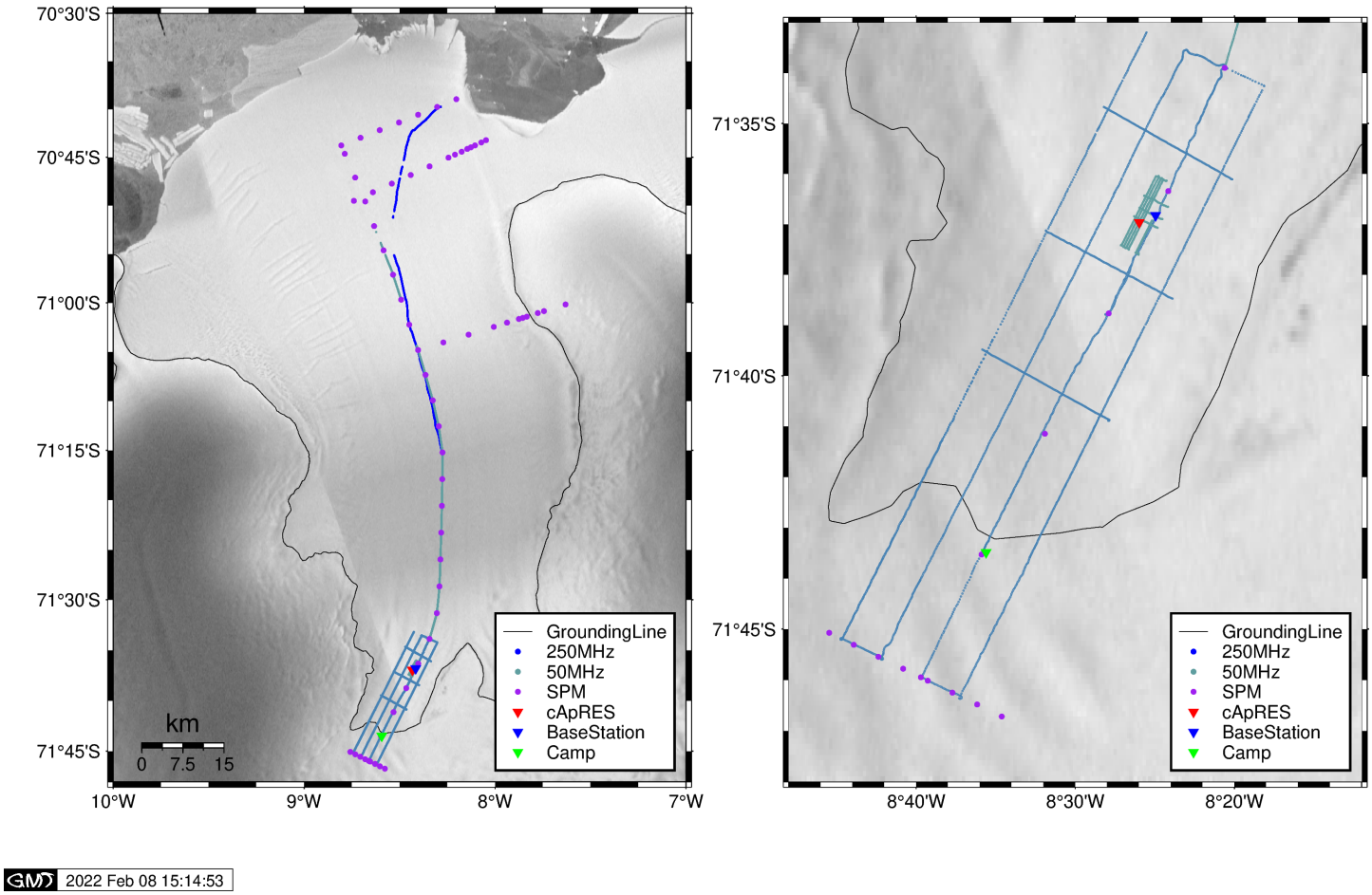


Figure 1: (Left) Larger-scale bird's eyes perspective of 250 MHz GPR, 50 MHz GPR, static & polarimetric (SPM) and continuous ApRES (cApRES) locations at Ekström Ice Shelf, East Antarctica. (Right) Close-up of the survey grid close to the grounding-zone.

1 Summary of ReMeltRadar 2021/22

RD

ReMeltRadar's scientific focus (1) to understand & quantify processes that govern ocean-induced melting at the base of ice shelves, and (2) to provide observational constraints on the spatial variability of ice rheology impacting ice-shelf buttressing strength. The area of interest is the Ekström Ice Shelf, East Antarctica, using the Neuyamer III station as a logistical hub for field surveys on the ice shelf and in the grounding zone. The first field season took place from November 2021 to January 2022. This report details the data collected and will serve as a baseline for envisaged repeat measurements in 2022/23.

Name	Project	Deployment	Responsibility
Inka Koch (UT)	ReMeltRadar	27.12.21-13.12.22	PulseEkko GPR
Jonathan Hawkins (UCL)	ReMeltRadar	27.12.21-13.12.22	HF ApRES
Reinhard Drews (UT)	ReMeltRadar	27.12.21-13.12.22	Science Coordination
Reza Ershadi (UT)	ReMeltRadar	05.11.21-13.12.22	Rover, SPM
Olaf Eisen (AWI)	ReMeltRadar	05.11.21-13.12.22	Traverse Leader

Table 1: Team composition of ReMeltRadar with members of University of Tübingen (UT), University College London (UCL), and Alfred Wegener Institute (AWI).

1.1 Team composition and chronology of data collection

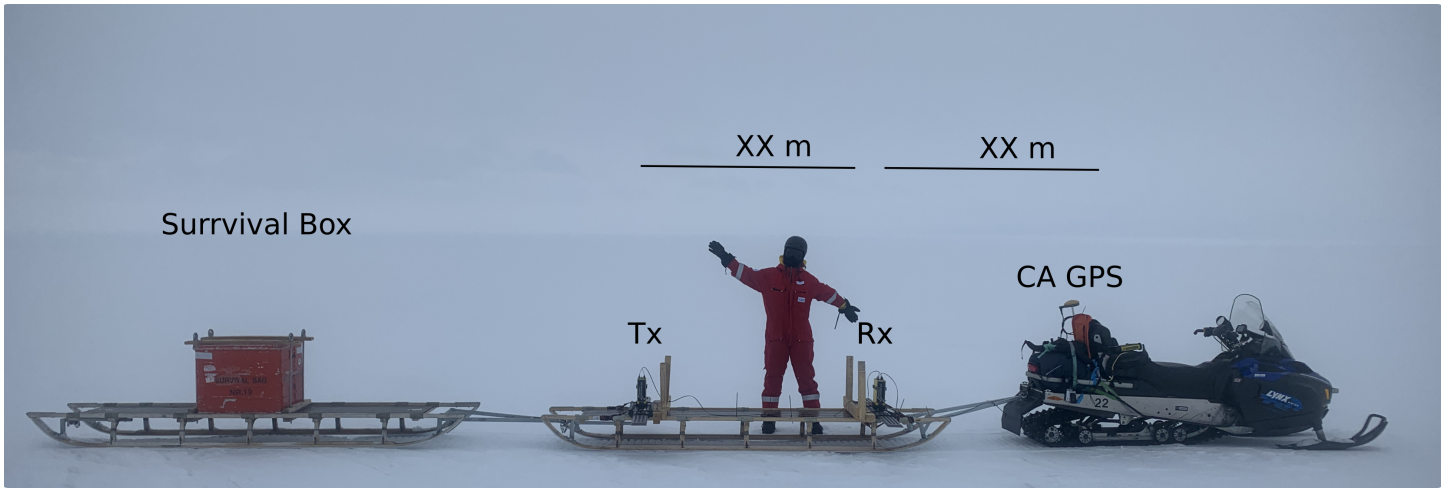
Date	Frequency	Profile	File-ID
28.12.21	50, 100 MHz	Test profiles near NM	*PE files*
29.12.21	100 MHz	MPA01-MPA03, SPX4-SPX2 near NM	*PE files*
01.01.22	250 MHz	NM-SPMA25 during traverse	*PE files*
02.01.22	50 MHz	GZ profiling along flow (SPMA25-SPMA21-GLPE3n-GLPE4s)	*PE files*
03.01.22	50 MHz	GZ profiling along flow (GLPE4s-GLPE1s-GLPE2n transfer to SPMA25)	*PE files*
04.01.22	50 MHz	GZ profiling along flow (GLPE7n-GLPE8s-GLPE5s)	*PE files*
05.01.22	50 MHz	GZ profiling across flow (XX points XX)	*PE files*
06.01.22	50 MHz	Finegrid along flow (XX points XX)	*PE files*
09.01.22	50 MHz	Finegrid across flow (XX points XX)	*PE files*
10.01.22	50 MHz	Along-flow Camp-NM (SPMA21-SPMA10)	*PE files*
12.01.22	50 MHz	Camp-NM continuation (SPMA10 - XX)	*PE files*

Table 2: Overview of GPR measurements taken with the PulseEkko radar from Sensors&Software. Details for the system setup and individual profiles are found in Section 3. Operator: I. Koch.
Here we need a table such as table for each sensor.

2 Data structure and initial source codes

RD, JH

3 GPR: Data example, field picture, system setup and profile specifics

IK 

4 SPM: Data example, field picture, system setup and site specifics

RE

5 HF ApRES: Data example, field picture, system setup and profile specifics

JH

6 cApRES: Data example, field picture, system setup and site specifics

RE,JH

7 Rover-ApRES: Data example, field picture, system setup and site specifics

RE